

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

1-10. (Canceled)

11. (New) A switching power supply comprising:

(a) a plurality of capacitors for dividing the voltage of a DC power supply;
(b) a plurality of DC-DC converters, the input sides of which respectively receive the voltages divided by said plurality of capacitors and the output sides of which are connected in parallel;

(c) output voltage error detecting means for detecting the output voltage of said DC-DC converters and for generating an error signal between the output voltage and a reference voltage;

(d) input voltage deviation detecting means for detecting voltages corresponding to the input voltages of said DC-DC converters and for generating the deviation signal of the input voltages of said DC-DC converters; and

(e) control means, receiving the error signal from said output voltage error detecting means and the deviation signal from said input voltage deviation detecting means, for drive-controlling said DC-DC converters,

wherein said input voltage deviation detecting means detects voltages induced in auxiliary windings added to a transformer at the time when switching mean are in the ON state.

12. (New) A switching power supply comprising:

(a) a plurality of capacitors for dividing the voltage of a DC power supply;
(b) a plurality of DC-DC converters, the input sides of which respectively receive the voltages divided by said plurality of capacitors and the output sides of which are connected in parallel;

(c) output voltage error detecting means for detecting the output voltage of said DC-DC converters and for generating an error signal between the output voltage and a reference voltage;

(d) input voltage deviation detecting means for detecting voltages corresponding to the input voltages of said DC-DC converters and for generating the deviation signal of the input voltages of said DC-DC converters; and

(e) control means, receiving the error signal from said output voltage error detecting means and the deviation signal from said input voltage deviation detecting means, for drive-controlling said DC-DC converters,

wherein said input voltage deviation detecting means detects voltages induced in the secondary windings of a transformer.

13. (New) A switching power supply comprising:

(a) a plurality of capacitors for dividing the voltage of a DC power supply;

(b) a plurality of DC-DC converters, the input sides of which respectively receive the voltages divided by said plurality of capacitors and the output sides of which are connected in parallel;

(c) output voltage error detecting means for detecting the output voltage of said DC-DC converters and for generating an error signal between the output voltage and a reference voltage;

(d) input voltage deviation detecting means for detecting voltages corresponding to the input voltages of said DC-DC converters and for generating the deviation signal of the input voltages of said DC-DC converters; and

(e) control means, receiving the error signal from said output voltage error detecting means and the deviation signal from said input voltage deviation detecting means, for drive-controlling said DC-DC converters,

wherein said input voltage deviation detecting means detects voltages applied to output choke coils.

14. (New) A switching power supply in accordance with claim 11, wherein said input voltage deviation detecting means comprises voltage detecting means for detecting the voltages applied to predetermined portions of said DC-DC converters and voltage deviation detecting means for detecting the deviation of the input voltages of said DC-DC converters detected by said voltage detecting means, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

15. (New) A switching power supply in accordance with claim 12, wherein said input voltage deviation detecting means comprises voltage detecting means for detecting the voltages applied to predetermined portions of said DC-DC converters and voltage deviation detecting means for detecting the deviation of the input voltages of said DC-DC converters detected by said voltage detecting means, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

16. (New) A switching power supply in accordance with claim 13, wherein said input voltage deviation detecting means comprises voltage detecting means for detecting the voltages applied to predetermined portions of said DC-DC converters and voltage deviation detecting means for detecting the deviation of the input voltages of said DC-DC converters detected by said voltage detecting means, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating switching means so that the input voltages to said DC-DC

converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

17. (New) A switching power supply in accordance with claim 11 further comprising:

(f) N (N: an integer of 3 or more) capacitors connected in series across the input terminals, across which said DC power supply is connected; and

(g) N DC-DC converters respectively connected to said capacitors, wherein said input voltage deviation detecting means detects voltages corresponding to the input voltages of said DC-DC converters, calculates the average value thereof and generates a deviation between said average value and the voltages corresponding to the input voltages of said DC-DC converters, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating said switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

18. (New) A switching power supply in accordance with claim 12 further comprising:

(f) N (N: an integer of 3 or more) capacitors connected in series across the input terminals, across which said DC power supply is connected; and

(g) N DC-DC converters respectively connected to said capacitors, wherein said input voltage deviation detecting means detects voltages corresponding to the input voltages of said DC-DC converters, calculates the average value thereof and generates a deviation between said average value and the voltages corresponding to the input voltages of said DC-DC converters, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating said switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

19. (New) A switching power supply in accordance with claim 13 further comprising:

(f) N (N: an integer of 3 or more) capacitors connected in series across the input terminals, across which said DC power supply is connected; and

(g) N DC-DC converters respectively connected to said capacitors, wherein said input voltage deviation detecting means detects voltages corresponding to the input voltages of said DC-DC converters, calculates the average value thereof and generates a deviation between said average value and the voltages corresponding to the input voltages of said DC-DC converters, and

said control means, receiving the deviation signal of said input voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects drive signals for ON/OFF operating said switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said input voltage deviation detecting means becomes zero.

20. (New) A switching power supply comprising:

(a) a plurality of capacitors for dividing the voltage of a DC power supply;

(b) a plurality of DC-DC converters, the input sides of which respectively receive the voltages divided by said plurality of capacitors and the output sides of which are connected in parallel;

(c) output voltage error detecting means for detecting the output voltage of said DC-DC converters and for generating an error signal between the output voltage and a reference voltage;

(d) input voltage deviation detecting means for detecting voltages corresponding to the input voltages of said DC-DC converters and for generating the deviation signal of the input voltages of said DC-DC converters; and

(e) control means, receiving the error signal from said output voltage error detecting means and the deviation signal from said input voltage deviation detecting means, for drive-controlling said DC-DC converters;

wherein said control means comprises reference triangular signal generating means for generating a reference triangular signal and voltage comparing means for comparing said reference triangular signal with the error signal of said output voltage error detecting means, and the deviation signal of said input voltage deviation detecting means is added to the reference triangular signal or the error signal of an error amplifier and compared in voltage.

21. (New) A switching power supply comprising:

- (a) a plurality of capacitors for dividing the voltage of a DC power supply;
- (b) a plurality of DC-DC converters having at least switching means, a transformer, rectifying means, a smoothing capacitor and an output choke coil, the input sides of which respectively receive the voltages divided by said plurality of capacitors and the output sides of which are connected in parallel;
- (c) output voltage error detecting means for detecting the output voltage of said DC-DC converters and for generating an error signal between the output voltage and a reference voltage;
- (d) voltage detecting means for detecting the voltages induced in the winding of a transformer corresponding to the input voltages of said DC-DC converters;
- (e) voltage deviation detecting means for outputting the deviation signal of input voltages of said DC-DC converters, said input voltages being detected by said voltage detecting means; and
- (f) control means, receiving the error signal from said output voltage error detecting means and the deviation signal from said voltage deviation detecting means, for correcting drive signals for ON/OFF said operating switching means so that the deviation of said voltage deviation detecting means becomes zero.

22. (New) A switching power supply in accordance with claim 21 further comprising:

- (g) N (N: an integer of 3 or more) capacitors connected in series across the input terminals, across which said DC power supply is connected; and

(h) N DC-DC converters respectively which are connected to said capacitors, and have at least switching means, a transformer, rectifying means, a smoothing capacitor and an output choke coil, wherein

said voltage deviation detecting means detects voltages corresponding to the input voltages of said DC-DC converters, calculates the average value thereof and generates a deviation between said average value and the voltages corresponding to the input voltages of said DC-DC converters, and

said control means, receiving the deviation signal of said voltage deviation detecting means and the error signal of said output voltage error detecting means, corrects signals for ON/OFF operating said switching means so that the input voltages to said DC-DC converters are balanced and so that the deviation of said voltage deviation detecting means becomes zero.